

PADA-300B

Aurorasound

Monaural Vacuum Tube Power Amplifier

Release to market : October 2019

Direct Heating Triode tube, 300B push-pull
Inter-stage transformer drive
Discrete transistor front-end, Hybrid construction



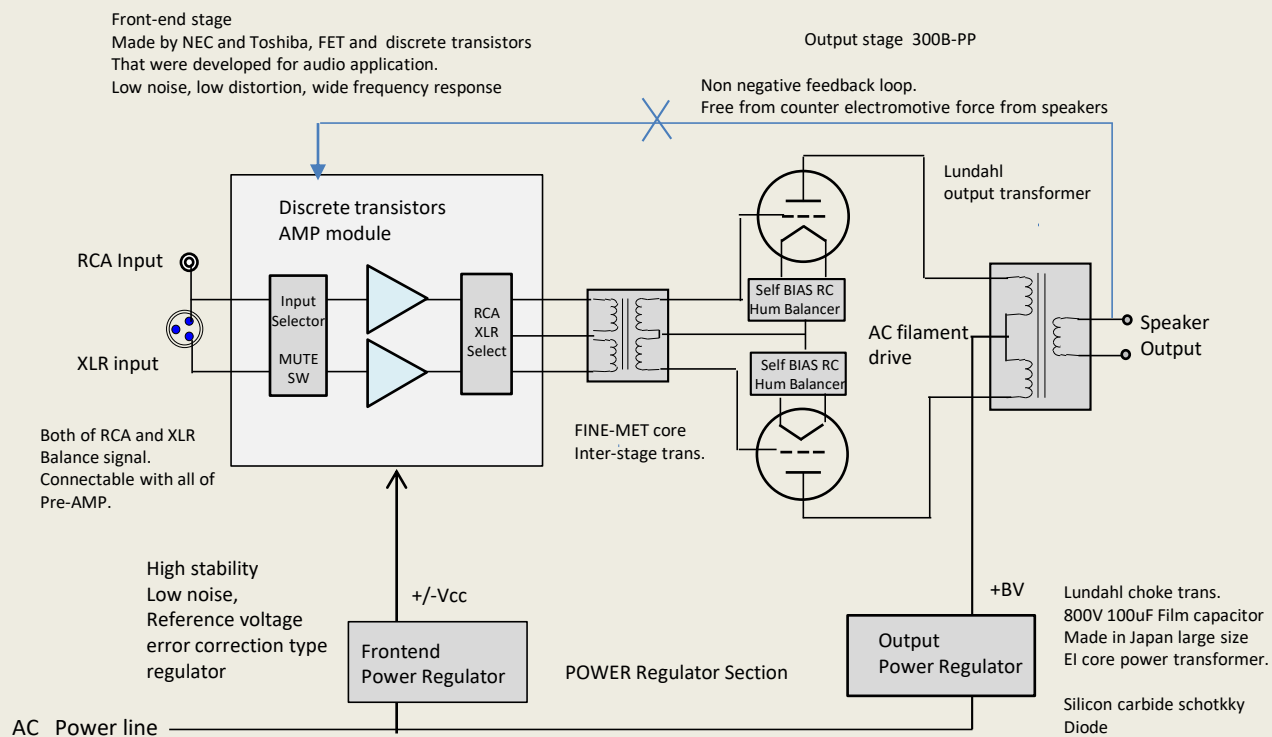
Key features

1. Output stage, 300B tubes push-pull. 28W@8ohm
2. Front-end, made in Japan discrete transistors.
3. Hybrid construction combined by inter-stage transformer.
4. No negative feedback loop in total amplifier.
5. Lundahl output transformer.
6. Solid rosewood body with oil finish.
7. Large size EI core power transformer, and very low noise high stability independent power supply section for front-end and output stage.
8. Bonnet cover is bundled.

Specifications

Input	RCA or XLR balance
	Input impedance 56k Ω (RCA/XLR)
Output power	28W, 8 Ω load
Signal sensitivity	400mV/RCA, 800mV/XLR, max power
Frequency response	20Hz – 45kHz, +0db/-3dB
THD+N	0.08% A-weighted
Residential noise	0.09mV以下. A-weighted
Functions	RCA/XLR input selector, MUTE Switch
Vacuum tubes	PSVANE WE-300B
Size	W310 xD480 xH248mm with bonnet cover
Weight	19.8kg
AC power supply	AC115V or AC220V
Power consumption	180W

PADA-300B Block Diagram



Single pair speaker output terminal can support 4Ω – 16Ω impedance.
No bad effect of non use wire winding of 4,8,16ohm tap.
The terminal is made of solid copper with gold plating.

MUTE switch shuts down the input signal, convenient at cable connection

Rhodium plate AC power inlet.

Made in Japan high quality EI core power transformer.

Rhodium plate RCA jack .
Made by Neutrick professional XLR connector

Made by ROHM, Silicon Carbide schottky diode,
Made in Japan, 100uF, 800V ripple refection capacitors. No leakage and long life.

Power choke transformer made by Swedish LUNDAHL. Independent inductance for each positive voltage and ground lines in order to reject common mode noise.

Output transformer made by Lundahl. No resonance vibration, no bobbin winding no stress wire winding, noise cancelation construction.

Inter-stage transfer between front-end section and tube out put stage. This is FINEMET core made in Japan trans.

Output stage, 300B tubes push-pull, 28W, Enough power for modern low sensitivity speakers.

25mm thickness solid Rosewood body with oil finish, made by a furniture artisan in Shizuoka pref. Top board material is 4mm thickness solid aluminum, no magnetic substance.

Self bias circuit uses high reliability polypropylene film capacitors for good high frequency response and longer life compared to popular electrolytic capacitors.
Easy to change the 300B tubes to other brand.

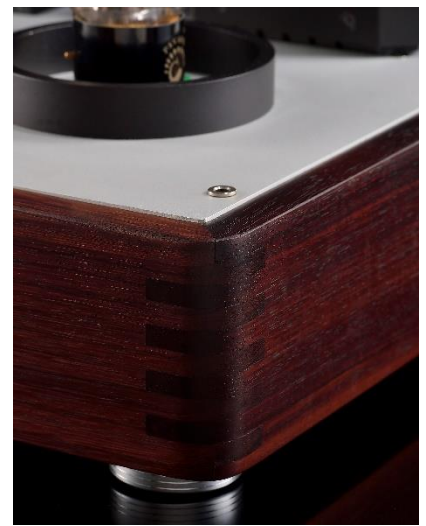
Orthodox AC filament drive.
Need readjustment of Hum balancer trimmer at tubes change. This is easy setting by your ears, no need special tools.





Bonnet cover (bundled)

Two units for Stereo



Solid Rose Wood with oil finish

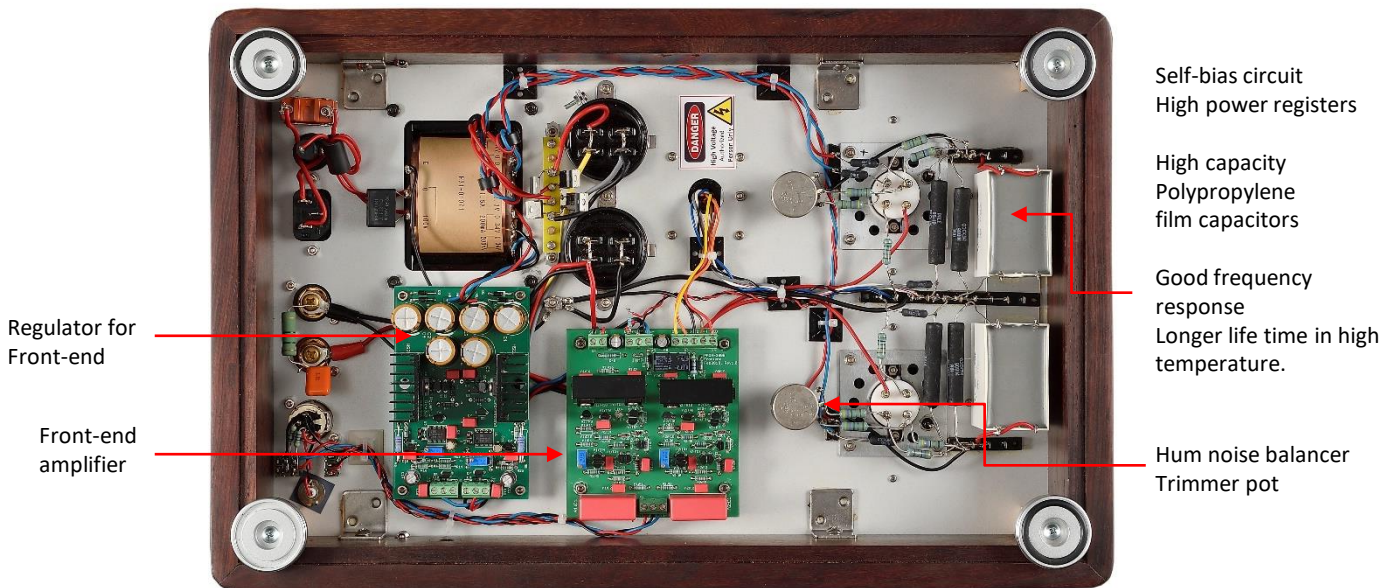


Rear side



Side view

Inside



Explanation

Conventional type of Hybrid power amplifiers constructed by vacuum tube in front-end and transistors for output stage. This case, transistors are used for main devices of power amplification, and try to adding tube taste in its sound. However, PADA-300B is opposite way, it is transistors in front-end and tubes for output stage. This construction can achieve low distortion, high SNR and wide frequency range by advantage of transistor devices, then place an inter-stage transformer for driving output tubes well. And also inter-stage trans works for matching signal level and supply voltage difference between transistor and tubes. This construction can bring out both advantage of transistors performance and tubes sound very well.

The amplifier has no negative feedback loop by virtue of 300B tubes and Lundhal output transformer excellent linearity. The tube filament is driven by AC voltage. In these days, DC filament drive is popular because low cost and high current diode devices are available to make DC, this can make very low hum noise performance. But DC drive has disadvantages that make unevenness of electron emission in positions of filament wire due to its resistance factor. This also cause damage to tubes in long term use. PADA-300B AC drive technic can cancel hum noise by push-pull method and simple center adjustment by pod trimmer. AC is correct way to brig out real performance of 300B.

PADA-300B employs self-bias methodology for tubes operation, this is well stability in long term, and also user can change tubes to different brand 300B by just plug in, no need to re-adjust bias current by monitoring meter. Usually self-bias circuit use electrolytic capacitor due to need of large capacitance and small size reason. But PADA-300B uses high reliability precision polypropylene film capacitors because it has superior of high frequency response and longer lifetime in high temperature.

In frond-end circuit, use NEC and Toshiba made in Japan FET and transistors that are developed for audio application in 1970-1980, golden age of analog audio. Those transistors are now already discontinued due to no large demand in digital era, but those have very good audio performance compared to current chips size transistors made in China. Aurorasound has large quantity new-old-stock of those made in Japan transistors and utilize them for all products line-up of Aurorasound.

In power supply section, front-end and output stage have independent regulators. Front-end regulator is same as VIDA regulator for stability and silence, output stage regulator use super low noise silicon carbide schtokky diode with large size film capacitors, not electrolytic capacitors, this is same reason of above self-bias portion. In general, when music plays in fortissimo or sequential percussive phrase, output stage consumes a lot of power current, then front-end would be suffered. However,PADA-300B independent regulators system takes care of this case, and manage dynamics of music very well.

Chassis body consists of 25mm thickness solid Rosewood material with oil finish, this is made by a furniture artisan lived in Shizuoka-pref. This wood is used for acoustic Guitar finger board and side body, very robust foundation to support guitar top board and strings. Top material is 4mm thickness solid aluminum, no magnetic substance. PADA-300B plans have same effect as guitar construction.